PATENT APPLICATION
Docket No.: 6647-029
Client Ref. No.: IDR-532

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	Christopher Jean SEILER, et al.		
Serial No.:	10/066,368	Examiner:	Thomas E. SHORTLEDGE
Filed:	January 30, 2002	Art Unit:	2626
Confirmation No.:	4539		
For:	METHOD TO DYNAMICALLY DETERMINE A USER'S LANGUAGE FOR THE INTERNET		

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION OF JAMES MARK NORMAN

I, JAMES MARK NORMAN, hereby declare:

1. I have been employed as an engineer at Novell, Inc. in the Portal Services Group since prior to 2001. While working in the Portal Services Group in 2001, I participated in the conception and implementation of Novell Portal Services 1.0, Service Pack 1 ("NPS Service Pack 1"). I am a co-inventor of the subject matter described in related U.S. Patent Application Serial No. 10/066,465, as well as this U.S. Patent Application Serial No. 10/066,368. I was omitted from being named as an inventor in related U.S. Patent Application Serial No. 10/066,465 by an inadvertent error, which is in the process of being rectified.

2. NPS Service Pack 1 was implemented before September 13, 2001. The document named Portal I18N Architecture.doc and titled "Novell Portal Service I18N Architecture" describes features implemented in NPS Service Pack 1 and relevant to this patent application. The document named Portal I18N Architecture.doc was first saved into the document management system used by Novell, Inc. before September 13, 2001. A true copy of the

document named Portal I18N Architecture.doc, as it existed before September 13, 2001, is attached hereto as Exhibit A. The document management system used by Novell, Inc. is typical of document management systems and source code systems used in the industry, and its use by software developers at Novell, Inc. is a standard business practice at Novell, Inc. A screenshot, showing that the document named Portal I18N Architecture.doc was checked in to the document management system used by Novell, Inc. before September 13, 2001, is attached hereto as Exhibit B.

3. NPS Service Pack 1 was commercially released on July 24, 2001. A true copy of the news brief announcing the release of NPS Service Pack 1 is attached hereto as Exhibit C. All of the features of the claims of this U.S. Patent Application Serial No. 10/066,368 were reduced to practice in NPS Service Pack 1 as released and available for download on July 24, 2001.

4. The claims of U.S. Patent Application Serial No. 10/066,368 are rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 6,311,180 to Fogarty ("Fogarty") in view of U.S. Patent Application Publication No. 2004/0205118 to Yu ("Yu"). Yu has an effective filing date in the United States of September 13, 2001.

5. The claims of U.S. Patent Application Serial No. 10/066,368 are supported by the document named Portal I18N Architecture.doc. For example, the support for claims 1, 6, 15, and 24 are described below (the remaining claims are similarly supported):

Claim 1. An apparatus for determining a language for a user, comprising:

a first computer;

a directory entry for the user, the directory entry stored in the first computer and including identity information for the user;

location information for a location of a second computer from which the first computer can be accessed;

means for determining browser information for a browser stored on the second computer;

a ranker for ranking a plurality of languages based on at least the directory entry, the location information, and the browser information; and

a selector for selecting one of the plurality of languages with a highest rank.

Claim 6. A method for determining a preferred language for a user, comprising:

logging the user into a first computer from a second computer with login information;

using the login information to identify a directory entry for the user;

determining a first language from the directory entry for the user;

determining a second language based on a location of the user at the second computer;

determining a third language from a browser;

ranking the first, second, and third languages; and

selecting a highest ranked language as the preferred language.

Claim 15. A computer-readable media containing a program to determine a preferred language for a user, the program comprising:

logging software to log the user into a first computer from a second computer with login information;

using software to use the login information to identify a directory entry for the user;

identification software to identify a first language from the directory entry for the user;

identification software to identify a second language based on a location of the user at the second computer;

identification software to identify a third language from a browser;

ranking software to rank the first, second, and third languages; and

selection software to select a highest ranked language as the preferred language.

Claim 24. An article comprising:

a computer-readable modulated carrier signal;

means embedded in the signal for logging a user in to a first computer from a second computer with login information;

means embedded in the signal for using the login information to identify a directory entry for the user;

means embedded in the signal for identifying a first language from the directory entry for the user;

means embedded in the signal for identifying a second language based on a location of the user at the second computer;

means embedded in the signal for determining a third language from a browser;

means embedded in the signal for ranking the first, second, and third languages; and

means embedded in the signal for selecting as a preferred language a highest ranked language.

Pages 1-2 of Exhibit A describes language determination and language determination search strategies as follows:

Language Determination
The purpose of determining the language is to come up with a list of languages and locales for the current user. The portal will compile this list base upon the strategy specified by the administrator. Currently, this search strategy is configured in the Portal Configuration Object (PCO) and/or the PortalServlet.properties (PSP) file.

In addition the portal contains a Default Portal Language. This is also configured in the PCO and/or PSP. The default language will be enUS. The language information will be published as part of the portal's <*SessionInfo*> tag to enable any gadget's layout stylesheet to query the language being used in the current session.

These lists are based on the ISO 639 and 3166 standards for languages and country codes. More information on these standards can be found at:

http://www.unicode.org/unicode/onlinedat/languages.html
http://www.unicode.org/unicode/onlinedat/countries.html

Once the portal determines the languages for a given user's session, it is returned to Gadget Manager. Gadget Manager uses this information in compiling the main stylesheet for each user session. The structure and layout required by this process will be described later in this document.

Language Determination Search Strategies

The portal ships with three search strategies. It is possible to add more search strategies in the future when necessary. Each strategy returns a list of possible languages and locales using the ISO Standard two-character notation. The portal then combines the list and returns a prioritized list of languages. Duplicates entries will not be added to the list.

The current strategies are:

1. Browser language. This strategy returns a list of the currently supported languages specified by the browser. Most browsers already use the ISO Standard.
2. Traditional NDS Language. This returns a list of the languages that are currently specified in the user's NDS Object. These languages are translated into ISO Standard before being returned.
3. Portal Language. This is a new setting on the portal user's object. This information is stored in the bhConfig setting. This is a list of languages ordered by priority. The portal's Administration and Configuration pieces have been changed to support this.

A default search strategy setting specifies the order of strategies to be used. The default search strategy will be set to:

2, 3

This will inform the portal to look in NDS first for any language information and then use the Portal's Default Language.

Other examples are listed here to illustrate how this setting can be used.

Example 1: 1, 2, 3

Using this combination of search strategies first looks for languages specified by the browser, then the traditional NDS language attribute, and finally the Default Portal Language.

If the browser's language is *deDE*, NDS contains *NIHONGO*, the Portal Language is *enUS*, and the default portal language is also *enUS*, the returned list would be: *deDE, jp, enUS*. Notice that the duplicate *enUS* is not added to the list.

Example 2: 3

This example only looks for the Portal Language and then also attaches the Default Portal Language.

If the Portal Language is set to *deDE* and the Default Portal Language is *enUS*, the returned list would be: *deDE, enUS*.

Page 5 of Exhibit A describes gadgets as follows:

Gadget String Files
Novell Portal Services uses XSL Stylesheets to store the localized strings needed by gadget layout stylesheets. Inside each language stylesheet, a gadget must define globally unique XSL variables that will be referenced in the layout stylesheets.

Each gadget requires an XSL/Language XSL file pair to provide the correct language and locale information for each user who authenticates to the portal. A gadget should define a group of Language XSL files for each language it plans to support. These files should follow the same naming pattern described earlier in this document.

For a basic and simple implementation, these files should be created and stored in the gadget's *skins/default/devices/default/* directory. In our example gadget (**Fig. 1**), GadgetX has defined *main_lang_[language code]_[country code].xsl* in the directory:

com.novell.nps.gadgets.GadgetX/skins/default/devices/default/

As previously described for gadget stylesheets, the portal includes a mechanism of providing additional levels of granularity as needed.

One example of when this is needed is when the portal must support both large and small display devices. It may be desired to provide detailed descriptions in Spanish when a user is using Internet Explorer 5 on their desktop computer, but short explanations when they login using a PocketPC device. In this scenario, two files with the same name are required in the following directories:

<gadget>/skins/<skin name>/devices/ie5/main_lang_es_ES.xsl
<gadget>/skins/<skin name>/devices/pocketpc/main_lang_es_ES.xsl
(emphasis in original)

Thus, the document named Portal I18N Architecture.doc discloses logging in to a computer (e.g., authenticating to the portal), a directory entry stored on a computer including identity information for a user (e.g., the user's NDS object and/or the portal user's object), location information (e.g., locale information for the user, including the machine from which the user is accessing the portal), browser information (e.g., browser language), a ranker (e.g., search strategy), and a selector (e.g., using this information to compile the main stylesheet), and therefore supports claims 1, 6, 15, and 24. The remaining claims are similarly supported by the document named Portal I18N Architecture.doc.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

James Mark Norman

Dated: March 21, 2007

Novell Portal Services I18N Architecture

Abstract

This document will describe the internationalization architecture provided by Novell Portal Services Version 1.1. The portal provides the ability to obtain the user's desired language and locale information from the directory. This allows dynamic support of users' language and locale in portal web pages. Using the language and locale information found in the directory, the portal's main stylesheets and each gadget's stylesheet will be dynamically selected.

Language Determination

The purpose of determining the language is to come up with a list of languages and locales for the current user. The portal will compile this list base upon the strategy specified by the administrator. Currently, this search strategy is configured in the Portal Configuration Object (PCO) and/or the PortalServlet.properties (PSP) file.

In addition the portal contains a Default Portal Language. This is also configured in the PCO and/or PSP. The default language will be enUS. The language information will be published as part of the portal's *<SessionInfo>* tag to enable any gadget's layout stylesheet to query the language being used in the current session.

These lists are based on the ISO 639 and 3166 standards for languages and country codes. More information on these standards can be found at:

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Once the portal determines the languages for a given user's session, it is returned to Gadget Manager. Gadget Manager uses this information in compiling the main stylesheet for each user session. The structure and layout required by this process will be described later in this document.

Language Determination Search Strategies

The portal ships with three search strategies. It is possible to add more search strategies in the future when necessary. Each strategy returns a list of possible languages and locales using the ISO Standard two-character notation. The portal then combines the list and returns a prioritized list of languages. Duplicates entries will not be added to the list.

The current strategies are:

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Example 2: 3

This example only looks for the Portal Language and then also attaches the Default Portal Language.

If the Portal Language is set to *deDE* and the Default Portal Language is *enUS*, the returned list would be: *deDE, enUS*.

Gadget Directory Overview

Fig. 1 is a typical gadget's directory structure in Novell Portal Services. We recommend this same structure for every gadget that will be built for use in the portal. This structure enables the following:

1. Localization of the strings used in the gadget's layout stylesheet

2. Localization of the layout stylesheets themselves
3. Ability for a gadget to support different skins

One of the goals in the localization of each gadget's strings is to eliminate file duplication. That is to say that many different layout stylesheets should be able to utilize the same string file.

It is possible, however, for each gadget to define multiple string files if necessary. This will be useful, for example, when a gadget desires to provide a lengthy description for large screen devices and brief descriptions for small screen devices like a PDA.

Note: The portal's system stylesheets directory will follow the same directory structure outlined in this document for managing the different skins and localized files.

Localized File Naming

Throughout this document, we will refer to the localized naming of files. Novell Portal Services adheres to the ISO 639 Standard for language codes and ISO 3166 Standard for country codes for naming localized files. The portal will automatically use localized layout and language stylesheet files when available. These files will be named using the following pattern:

[non-localized filename]_[language code]_[country code].[extension]

For example, the following filename would be created when localizing *main.xsl* for the English language in the United States:

main_en_US.xsl

The same pattern is used for all localized files for different languages and countries.

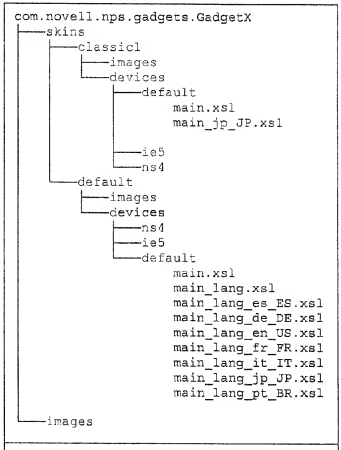

Figure 1. *This is a typical gadget directory layout. A default main.xsl layout stylesheet has been provided in each skin. The classic1 skin also includes a Japanese layout stylesheet. The localized language stylesheets are located in the default skin, default device directory and will be used for all skins and devices.*

Gadget Stylesheets

In the general case, a gadget will write one layout stylesheet for each skin (look) that it provides in the following directory:

<gadget>/skins/<skin name>/devices/<device>/

In our example (**Fig. 1**), we have created the stylesheet:

com.novell.nps.gadgets.GadgetX/skins/default/devices/default/main.xsl

Additional localized layout stylesheets may be defined using the localized file naming described above. This is useful in situations in which the portal must supports multiple languages where the actual layout of a page must be different for two or more languages or locales. For example, if a portal needed to support both Japanese and English, the designer may wish to create a different layout than for Japanese users because Japanese is

read left to right. If the original layout stylesheet is named *main.xsl*, this could be accomplished by defining the following layout stylesheet for Japanese:

<gadget>/skins/<skin name>/devices/<device>/main_jp_JP.xsl

To support the English portion that this portal would need to provide, the designer could either define an additional stylesheet for English in the same directory or allow the portal to default to the original *main.xsl* stylesheet.

Gadget String Files

Novell Portal Services uses XSL Stylesheets to store the localized strings needed by gadget layout stylesheets. Inside each language stylesheet, a gadget must define globally unique XSL variables that will be referenced in the layout stylesheets.

Each gadget requires an XSL/Language XSL file pair to provide the correct language and locale information for each user who authenticates to the portal. A gadget should define a group of Language XSL files for each language it plans to support. These files should follow the same naming pattern described earlier in this document.

For a basic and simple implementation, these files should be created and stored in the gadget's *skins/default/devices/default/* directory. In our example gadget **(Fig. 1)**, GadgetX has defined *main_lang_[language code]_[country code].xsl* in the directory:

com.novell.nps gadgets.GadgetX/skins/default/devices/default/

As previously described for gadget stylesheets, the portal includes a mechanism of providing additional levels of granularity as needed.

One example of when this is needed is when the portal must support both large and small display devices. It may be desired to provide detailed descriptions in Spanish when a user is using Internet Explorer 5 on their desktop computer, but short explanations when they login using a PocketPC device. In this scenario, two files with the same name are required in the following directories:

<gadget>/skins/<skin name>/devices/ie5/main_lang_es_ES.xsl
<gadget>/skins/<skin name>/devices/pocketpc/main_lang_es_ES.xsl

The default device and default skin

The *devices/default* and *skins/default* directories are default implementations. When the portal fails to find localized stylesheets or string files in a given device/skin directory, it will default to use the ones found in the *devices/default* or *skins/default* directories. If the portal cannot find the needed file in these default directories, the process will fail and needs to be fixed by the administrator. This process will be described in more depth later.

Managing Image Files

Each gadget contains an *images* directory that can be used to store images specific to the gadget. In addition, each skin within a gadget also has an *images* directory. This should be used for graphics specific to a particular skin. It is the responsibility of the person writing the gadget layout stylesheet to reference the images in their proper location.

Gadgets may use localized image files. By this, we mean that an image can contain a graphic which is either specific to a specific language, locale or both. In this case, the gadget writer is responsible for creating and referencing the different graphic files for the different languages and locales. To maintain organization, a gadget writer can adopt the same ISO standards for languages and country codes to name graphics.

To avoid creating multiple layout stylesheets, a gadget writer should create variables in the language stylesheet files that reference the correct localized images. As an example of this, a variable to a "stop" icon could be created:

```
<xsl:variable name="com.novell.nps.GadgetX.images.StopIcon">
        <path to gadget's images>/stop_icon_fr_FR.jpg
</xsl:variable>
```

In the gadget stylesheet, this can be referenced using an XSL Attribute Value Template:

```
<img src="{$com.novell.nps.GadgetX.images.StopIcon}"/>
```

Locating Localized Files

When a user first accesses Novell Portal Services, the portal will determine what language to use based on the browser's language. When the user authenticates to the Portal, the language and locale information will come through a prioritized list that is stored in the user's object in the directory.

Using the user's language information and a routine in the portal, gadget writers will be able to ask for a localized version of a resource file. In addition, the portal will provide the necessary mechanisms to dynamically build the correct set of layout and language stylesheet files to provide the user with the correct language on their device.

The search routine is built upon an interface that allows different search strategies to be selected by the administrator. By default, the portal will search the directory structure for localized files in the following order (default directories have been underlined):

1. *<gadget>/skins/<skin name>/devices/<device>/*
2. *<gadget>/skins/<skin name>/devices/default/*
3. *<gadget>/skins/default/devices/<device>/*
4. *<gadget>/skins/default/devices/default/*

If a localized file is not found during this process, the portal will perform a second search for the original non-localized file using the same search order. There should never be a case where no file is found. For a gadget to function, the non-localized file *must* be present.

Gadget Configuration Files

The portal requires gadget require to supply an XML file that describes their available settings. This information is used during the installation, configuration, and administration of the gadget. This file is named *AvailableSettings.xml* and will be stored under the portal's WEB-INF directory. This file uses DTDs to provide the strings used to describe the various settings.

The portal supports localized versions of these DTD files as well. DTD files should be localized with the same naming method used throughout this document. **Fig. 2** shows an example of a localized gadget.

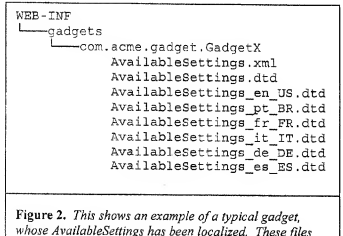

Figure 2. *This shows an example of a typical gadget, whose AvailableSettings has been localized. These files are placed under the WEB-INF directory to prevent them from automatically being published by the web server.*

The administration components of the portal that need access to these files will use the same routine provided by the portal to acquire localized versions of these files.

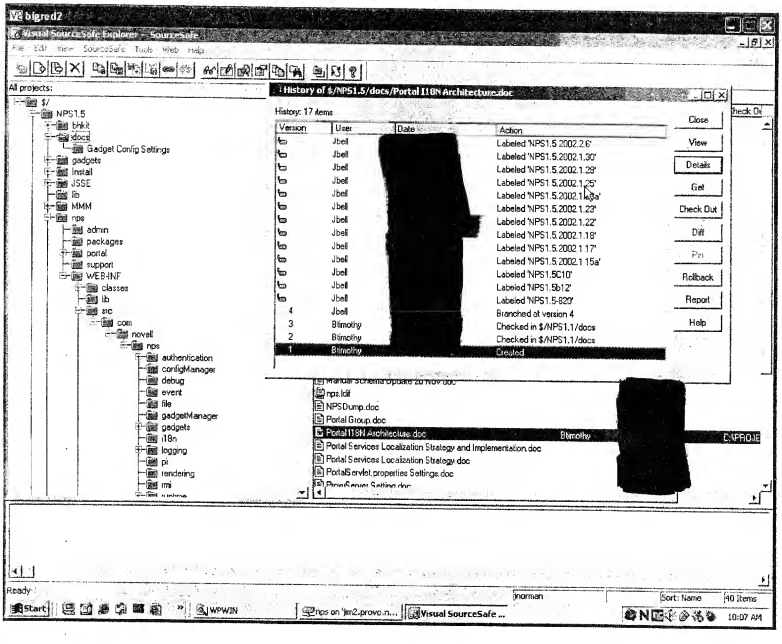

EXHIBIT B

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http://www.novell.com/news/press/pressroom/news_brief/archive/2001/07/pr24.html

Novell.

News Brief

Novell Portal Services 1.0 Service Pack 1 Now Available

PROVO, UT — July 24, 2001 — Service Pack 1 for Novell Portal Services 1.0 - eBusiness software that personalizes, secures and focuses a user's business and key relationships - is now available. Novell Portal Services removes the barriers between intranets, extranets, the Internet, and wired and wireless networks while presenting users a single, unified view to the Net.

Novell Portal Services boosts employee productivity and enhances relationships with customers and partners by providing personalized, single-view access to files, collaboration tools, information and applications from all over the Net. With Novell Portal Services, users login with one-step authentication to gain browser-based access anytime, anywhere to applications and information based on their business context (roles, identity, location, workgroups, business hierarchy and any other identifying information that exists on the Net). Ultimately, Novell Portal Services raises productivity for a mobile workforce.

Features Service Pack 1 adds to Novell Portal Services 1.0 include:

- support for internationalization
- ease-of-use enhancements to administrative functions
- three- to four-fold performance increases in scalability, speed and user capacity

Novell Portal Services is built on industry standards like Java, XML, HTML and LDAP, and it runs on eBusiness platforms such as Linux, NetWare, Solaris and Windows NT/2000. Novell Portal Services 1.0 Service Pack 1 is available for free download at http://www.novell.com/download.

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EXHIBIT C
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